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UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF MONTANA
MISSOULA DIVISION

CENTER FOR BIOLOGICAL)
DIVERSITY; CONSERVATION)
NORTHWEST; DEFENDERS OF)
WILDLIFE; FRIENDS OF THE)
CLEARWATER; GREATER)
YELLOWSTONE COALITION; IDAHO)
CONSERVATION LEAGUE; JACKSON)
HOLE CONSERVATION ALLIANCE;)
KLAMATH-SISKIYOU WILDLANDS)
CENTER; ROCKY MOUNTAIN WILD;)
and SIERRA CLUB,)

Plaintiffs,)

v.)

DAVID BERNHARDT, Secretary, U.S.)
Department of the Interior, in his official)
capacity; AURELIA SKIPWITH, Director,)
U.S. Fish and Wildlife Service, in her)
official capacity; and UNITED STATES)
FISH AND WILDLIFE SERVICE,)

Defendants.)

Case No. CV 20–181–M–DWM

**FIRST AMENDED
COMPLAINT FOR
DECLARATORY AND
INJUNCTIVE RELIEF**

INTRODUCTION

1. Pursuant to Federal Rule of Civil Procedure 15(a)(1), Plaintiffs hereby file this first amended complaint. This case challenges the United States Fish and Wildlife Service’s (“Service”) decision on October 13, 2020 to withdraw the proposed rule to list the distinct population segment of the North American wolverine occurring in the contiguous United States as a threatened species under the Endangered Species Act (“ESA”), 16 U.S.C. § 1531 et seq. 85 Fed. Reg. 64,618 (Oct. 13, 2020) (“Withdrawal”).

2. In the lower-48 United States, the wolverine is a rare and elusive resident of high mountain wilderness landscapes. Wolverines are adapted to live in high-altitude and high-latitude ecosystems characterized by deep snow and cold temperatures. Deep snow is particularly important for wolverine reproduction, but wolverines of both sexes rely on these same cold, snowy areas year-round.

3. Wolverines once ranged across the entire northernmost tier of the United States from Maine to Washington and southward down the spines of the major Western mountain ranges as far as California and New Mexico. Today, wolverine populations exist in the lower-48 states only in the Northern Rocky Mountain regions of Idaho, Montana, and Wyoming, in the Cascade Mountains of Washington, and in a single mountainous region of northeastern Oregon.

Biologists estimate that, in total, the lower-48 wolverine population consists of no more than 300 individuals.

4. The few wolverines occupying the lower-48 states face a significant threat of habitat loss in a warming climate. This threat of habitat loss is compounded by other threats facing the wolverine population in the lower-48 states, including highly isolated and fragmented habitat, extremely low population numbers, incidental trapping, and disturbance from winter recreation activities that disrupt wolverine habitat use.

5. The wolverine's low population numbers and fragmented habitat in the lower-48 states, together with the species' reliance on snowy alpine landscapes that are rapidly disappearing due to climate change, have given rise to efforts by members of the public, including the Plaintiffs here, to obtain new protections for the wolverine under the ESA. In response, the Service has repeatedly refused to apply the ESA's protections to the wolverine, giving rise to a two-decade saga in which the public's repeated attempts to secure needed legal protections for this imperiled species have met with ongoing resistance from the Service. As a result, judicial intervention repeatedly has been required to compel the Service to take the actions required by the ESA. In every case in which the Service's actions have faced legal challenge during this saga, the agency has either lost on the merits or declined to defend its actions and instead entered into a settlement requiring the

agency to re-evaluate wolverine listing under the ESA. This record of judicial rejection of the Service's actions includes this Court's 2016 ruling in Defenders of Wildlife v. Jewell, 176 F. Supp. 3d 975, 1011 (D. Mont. 2016), in which this Court invalidated a prior effort by the Service to withdraw the proposed wolverine listing rule.

6. Now, judicial intervention to remedy the Service's unlawful conduct is once again required. In its most recent Withdrawal decision, the Service again sidestepped its legal obligations. The Service's Withdrawal disregarded the best available scientific information, reached irrational conclusions, arbitrarily dismissed significant threats to the wolverine's survival, and ultimately violated the ESA. Accordingly, Plaintiffs return to this Court for relief.

JURISDICTION, VENUE AND ADMINISTRATIVE REMEDIES

7. Plaintiffs bring this action pursuant to the Endangered Species Act, 16 U.S.C. § 1540(g)(1)(C), which waives the Defendants' sovereign immunity. This Court has jurisdiction over Plaintiffs' claims pursuant to 28 U.S.C. § 1331 (federal question) and 16 U.S.C. § 1540(g)(1)(C) (ESA citizen-suit provision), and may issue a declaratory judgment and further relief pursuant to 16 U.S.C. § 1540(g)(1)(C) and 28 U.S.C. §§ 2201-02.

8. Venue is proper in this District under 28 U.S.C. § 1391 because a substantial part of the ESA violations alleged in this complaint occurred in this

District and a significant number of the remaining wolverines impacted by the Service's unlawful conduct are located in this District.

9. Plaintiffs provided Defendants with 60 days' written notice of Plaintiffs' intent to sue on October 13, 2020, as required by 16 U.S.C. § 1540(g)(2).

PARTIES

10. Plaintiff Center for Biological Diversity (the "Center") is a nonprofit organization dedicated to the preservation, protection and restoration of biodiversity, native species and ecosystems. The Center was founded in 1989 and is based in Tucson, Arizona, with offices throughout the country. The Center works through science, law, and policy to secure a future for all species, great or small, hovering on the brink of extinction. The Center is actively involved in species and habitat protection issues and has more than 74,000 members throughout the United States and the world. The Center brings this action on its own institutional behalf and on behalf of its members. Many of the Center's members reside in, explore and enjoy mountain landscapes in the lower-48 states occupied by wolverines.

11. Plaintiff Conservation Northwest is a non-profit conservation organization based in Bellingham, Washington. Conservation Northwest was founded in 1988 and now has more than 15,000 members and supporters.

Conservation Northwest seeks to maintain the ecological integrity of the Northwest's wildlands and advocates for protection of imperiled wildlife such as the lynx, the fisher, and the wolverine.

12. Plaintiff Defenders of Wildlife ("Defenders") is a non-profit conservation organization based in Washington, D.C., with offices across the country. Defenders has more than 1 million members and supporters across the nation, many of whom reside within the historic and current range of the wolverine. Defenders is dedicated to protecting and restoring all native wild animals and plants in their natural communities. Defenders has invested time and resources protecting the wolverine and its habitat, including advocating for monitoring and conservation of the species, and for listing the wolverine as an endangered or threatened species under the ESA. In addition, Defenders regularly publishes information regarding species, including the wolverine, for the use of its members and the public.

13. Plaintiff Friends of the Clearwater ("Friends") is a non-profit conservation organization based in Moscow, Idaho. Friends is dedicated to protecting the National Forests and public lands of the Greater Salmon-Selway Ecosystem in central Idaho. Friends has actively advocated for protection of the wolverine by sponsoring free public-education presentations about the wolverine in Idaho, publishing articles about the wolverine in its newsletter, gathering

wolverine sightings information from the public agencies in the region, and participating in public-involvement processes that affect wolverines and their habitat.

14. Plaintiff Greater Yellowstone Coalition (“GYC”) is a conservation organization dedicated to protecting and restoring the Greater Yellowstone Ecosystem and the unique quality of life it sustains. Formed in 1983, GYC is a non-profit corporation and has approximately 90,000 supporters. Central to GYC’s mission is maintaining the Greater Yellowstone Ecosystem’s signature populations of rare and imperiled wildlife, including the wolverine.

15. Plaintiff Idaho Conservation League (“ICL”) is a non-profit conservation organization based in Boise, Idaho, that seeks to preserve Idaho’s clean water, wilderness and quality of life through citizen action, public education, and professional advocacy. ICL was founded in 1973 and today has approximately 10,000 members. ICL seeks to preserve Idaho’s wildlife habitat for a variety of species, including the wolverine.

16. Plaintiff Jackson Hole Conservation Alliance is a non-profit conservation advocacy organization based in Jackson, Wyoming with more than 2,000 supporters. The Jackson Hole Conservation Alliance works to protect the wildlife, wild places, and community character of Jackson Hole by empowering the whole community to live in balance with nature.

17. Plaintiff Klamath-Siskiyou Wildlands Center (“KS Wild”) is a non-profit organization incorporated in Oregon with offices in Ashland and Williams, Oregon. KS Wild has 3,500 members in more than 10 states, with most members concentrated in southern Oregon and northern California. KS Wild advocates for the forests, wildlife, and waters of the Rogue and Klamath Basins, and works to protect and restore the extraordinary biological diversity of the Klamath-Siskiyou region of southwest Oregon and northwest California. KS Wild uses environmental law, science, education, and collaboration to help build healthy ecosystems and sustainable communities.

18. Plaintiff Rocky Mountain Wild is a non-profit wildlife conservation organization based in Denver, Colorado, and has more than 7,600 members and supporters. Rocky Mountain Wild works to protect the biological diversity of the Rocky Mountain West, and monitors the status of more than 500 species and conserves core habitats that sustain wildlife and native plants.

19. Plaintiff Sierra Club is a national nonprofit organization with 67 chapters and about 830,000 members dedicated to exploring, enjoying, and protecting the wild places of the Earth; to practicing and promoting the responsible use of the Earth’s ecosystems and resources; to educating and enlisting humanity to protect and restore the quality of the natural and human environment; and to using all lawful means to carry out these objectives.

20. Plaintiffs' members and staff seek to observe, photograph, and study the wolverine and/or signs of the wolverine's presence in its native habitat. Members and staff of the plaintiff organizations also live and/or recreate throughout the current and historic range of the wolverine. Plaintiffs use and enjoy, on a continuing and ongoing basis, the habitat of the wolverine and the larger ecosystem upon which it depends. Plaintiffs derive aesthetic, recreational, scientific, inspirational, educational, and other benefits from these activities.

21. An integral aspect of Plaintiffs' interest in the wolverine is the expectation and knowledge that the wolverine is present in its native range. Members of each of the Plaintiff groups have conservation and aesthetic interests in the continued existence of wolverines in the lower-48 United States in part because the reclusive wolverine is a living symbol of our nation's remaining wilderness. As the pioneering American wildlife biologist and conservationist Olaus Murie once wrote, "I wonder if there is another inhabitant of northern wilderness that so excites the imagination." Olaus, Murie, A Field Guide to Animal Tracks 66 (2d ed. 1974). Murie described coming upon a wolverine trail in an early winter snowfall: "Merely seeing those tracks in the snow made it a red-letter day." Id. at 68. Plaintiffs have an interest in preserving the possibility of such experiences and activities in the future. Plaintiffs' interest in the wolverine is entirely dependent on the continued existence of a sustainable wolverine

population in the wild. Plaintiffs' members and staff have participated in efforts to protect and preserve the habitat essential to the continued survival of the wolverine.

22. The legal violations alleged in this complaint cause direct injury to the aesthetic, conservation, recreational, inspirational, educational, and wildlife preservation interests of the Plaintiffs and members of the Plaintiff organizations. These are actual, concrete injuries to Plaintiffs, caused by Defendants' failure to comply with the ESA and its implementing regulations and policies. These injuries would be redressed by the relief requested in this complaint. Plaintiffs have no other adequate remedy at law.

23. Defendant David Bernhardt is the United States Secretary of the Interior. In that capacity, Secretary Bernhardt has supervisory responsibility over the Service. The Secretary of the Interior is the federal official vested with responsibility for properly carrying out the ESA with respect to terrestrial mammals such as the wolverine. Defendant Bernhardt is sued in his official capacity.

24. Defendant Aurelia Skipwith is the Director of the United States Fish and Wildlife Service. Defendant Skipwith is sued in her official capacity.

25. Defendant United States Fish and Wildlife Service is a federal agency within the Department of Interior. The Service is responsible for administering the

ESA with respect to terrestrial wildlife such as wolverines, including species listing determinations under ESA Section 4.

THE ENDANGERED SPECIES ACT

26. The ESA was enacted to “provide a program for the conservation of . . . endangered species and threatened species” and to “provide a means whereby the ecosystems upon which endangered species and threatened species depend may be conserved.” 16 U.S.C. § 1531(b).

27. The ESA is a call to species protection: a commitment, in the words of the U.S. Supreme Court, “to halt and reverse the trend toward species extinction—whatever the cost,” Tennessee Valley Auth. v. Hill, 437 U.S. 153, 154 (1978), by rejecting the “economic growth and development untempered by adequate concern and conservation” that gave this country its legacy of extinctions, 16 U.S.C. § 1531(a)(1).

28. To be protected by the ESA’s conservation program, a species must first be listed under the ESA as endangered or threatened. The ESA defines “endangered species” as “any species which is in danger of extinction throughout all or a significant portion of its range.” Id. at § 1532(6). A “threatened species” is “any species which is likely to become an endangered species within the foreseeable future throughout all or a significant portion of its range.” Id. at § 1532(20). To achieve the goal of conserving threatened and endangered species,

section 4 of the ESA requires the Secretary of the Interior to determine whether a species is threatened or endangered, 16 U.S.C. § 1533(a)(1), designate critical habitat for the species, id. at § 1533(a)(3), and promulgate a recovery plan for the species, id. at § 1533(f).

29. The ESA defines the term “species” to include “any distinct population segment of any species of vertebrate fish or wildlife which interbreeds when mature.” Id. at § 1532(16). Thus, the Service can list as endangered or threatened a distinct population segment of a vertebrate species.

30. In this regard, the ESA’s text and legislative history reflect a “consistent policy decision by Congress that the United States should not wait until an entire species faces global extinction before affording a domestic population segment of a species protected status.” Sw. Ctr. for Biological Diversity v. Babbitt, 926 F. Supp. 920, 924 (D. Ariz. 1996). Indeed, in establishing that a species may be deemed endangered or threatened based on threats “throughout . . . a significant portion of its range,” Congress sought to provide for “the possibility of declaring a species endangered within the United States where its principal range is in another country, such as Canada or Mexico, and members of that species are only found in this country insofar as they exist on the periphery of their range.” H.R. Rep. No. 93-412, 10 (1973). Moreover, in authorizing the listing of distinct population segments (“DPSs”) under the ESA, Congress recognized “that

there may be instances in which the Service should provide for different levels of protection for populations of the same species. For instance, the U.S. population of an animal should not necessarily be permitted to become extinct because the animal is more abundant elsewhere in the world.” S. Rep. No. 96-151, 96th Cong., 1st Sess. (1979), reprinted in A Legislative History of the Endangered Species Act, 97th Cong., 2d Sess. 1397 (1982). This statutory authority to provide differing levels of protection to different populations is a key feature of the ESA. Many of the most prominent species protected under the ESA, including the grizzly bear and bald eagle, were listed as populations in the lower-48 states despite the presence of more robust populations in Alaska and Canada.

31. Congress did not define “distinct population segment,” or “DPS,” in the ESA, and the term has no generally accepted scientific meaning. See Nat’l Ass’n of Home Builders v. Norton, 340 F.3d 835, 842 & n.8 (9th Cir. 2003). In 1996, the Service issued a policy interpreting the phrase “distinct population segment” that requires consideration of the discreteness of the population segment in relation to the remainder of the species to which it belongs; the significance of the population segment to the species to which it belongs; and the population segment’s conservation status in relation to the Act’s standards for listing. 61 Fed. Reg. 4,722, 4,725 (Feb, 7, 1996).

32. With respect to the discreteness element, “[t]he standard established for discreteness is simply an attempt to allow an entity given DPS status under the Act to be adequately defined and described.” Id. at 4,724. A population may be discrete if it meets one of the following conditions:

- a. It is markedly separated from other populations of the same taxon as a consequence of physical, physiological, ecological, or behavioral factors. Quantitative measures of genetic or morphological discontinuity may provide evidence of this separation.
- b. It is delimited by international governmental boundaries within which differences in control of exploitation, management of habitat, conservation status, or regulatory mechanisms exist that are significant in light of section 4(a)(1)(D) of the Act.

Id. at 4,725. In determining a population’s significance, the Service’s evaluation may include:

- a. Persistence of the discrete population segment in an ecological setting unusual or unique for the taxon;
- b. Evidence that loss of the discrete population would result in a significant gap in the range of the taxon;
- c. Evidence that the discrete population segment represents the only surviving natural occurrence of a taxon that may be more abundant elsewhere as an introduced population outside its historic range, or
- d. Evidence that the discrete population segment differs markedly from other populations of the species in its genetic characteristics.

Id. Significance is to be considered “in light of Congressional guidance” and may be established based on, “but is not limited to,” the above listed factors. Id.

33. In making decisions to list a species, including a DPS, the ESA requires the Service to “determine whether the species is an endangered species or a threatened species because of any of the following factors:

- a. the present or threatened destruction, modification, or curtailment of its habitat or range;
- b. overutilization for commercial, recreational, scientific, or educational purposes;
- c. disease or predation;
- d. the inadequacy of existing regulatory mechanisms; or
- e. other natural or manmade factors affecting its continued existence.”

16 U.S.C. § 1533(a)(1).

34. The Service must make its listing determinations “solely on the basis of the best scientific and commercial data available . . . after conducting a review of the status of the species.” *Id.* at § 1533(b)(1)(A).

THE WOLVERINE

35. The wolverine (*Gulo gulo*) is the largest terrestrial member of the weasel family. In attempting to describe the wolverine, the early American naturalist Ernest Thompson Seton said as follows:

The wolverine is a tremendous character . . . a personality of unmeasured force, courage, and achievement so enveloped in a mist of legend, superstition, idolatry, fear, and hatred, that one scarcely knows how to begin or what to accept as fact. Picture a weasel—and most of us can do that, for we have met the little demon of destruction, that small atom of insensate courage, that symbol of slaughter, sleeplessness, and tireless, incredible activity—picture that scrap of demoniac fury, multiply that mite by some fifty times, and you have the likeness of a wolverine.

Lives of Game Animals (1928).

36. Adult wolverines normally weigh 20 to 40 pounds and are three to four feet long. Wolverines typically exhibit a thick, glossy, dark-brown coat of fur, often with a pale buff stripe running laterally from the shoulders along the animal's side and crossing the rump just above a long, bushy tail.

37. Wolverines once ranged across the northernmost tier of the United States from Maine to Washington, and south into the Adirondacks of New York, the Rocky Mountains as far south as New Mexico, and the Sierra Nevada-Cascade and Siskiyou Mountains as far south as California. Today, the wolverine has been eliminated from all but a fragment of this historic range by the destruction of its wilderness habitat and trapping and poisoning by European-American settlers. Wolverines were extirpated from the upper Midwest states by the early 1900s, and from the Northeast shortly thereafter. Although lone male wolverines have within the past 10 years traveled to California and Colorado, today wolverine populations are known to exist in the contiguous United States only in the Rocky Mountain regions of Idaho, Montana, and Wyoming, in the Cascade Mountains of Washington, and in the Wallowa Mountains of northeastern Oregon.

38. Individual wolverines require large home ranges to access sufficient food to sustain themselves throughout the year, with the size of those ranges varying by habitat and food conditions, age, and gender. Home ranges of studied

wolverines in Idaho averaged approximately 1,522 square kilometers for adult males and 384 square kilometers for adult females. In northwest Montana, adult males had home ranges of 422 square kilometers, while females occupied ranges averaging 288 square kilometers.

39. Wolverines primarily rely on scavenging ungulates killed by other predators or by natural causes such as disease, injury, or weather. Wolverines also prey on rodents and other small mammals, and are capable of taking even large ungulates such as deer, elk, and moose as live prey when the opportunity arises.

40. Wolverines have a low reproductive rate. Female wolverines attain sexual maturity at about 15 months, but fewer than half of potentially reproducing females actually produce young, known as kits, in any given year. Wolverine litter size averages two to three kits in the years when a female does give birth. On average, an Idaho study found that wolverines reproduced at a rate of less than one kit per female per year.

41. Available information indicates that the wolverine population in the lower-48 United States is significantly imperiled with extinction. This state of imperilment begins with the wolverine's scattered and fragmented population status. Wolverines within the contiguous United States currently exist as a "metapopulation," or "a network of semi-isolated subpopulations" that "require some level of regular or intermittent migration and gene flow" to maintain

population integrity and genetic viability. Threatened Status for the Distinct Population Segment of the North American Wolverine Occurring in the Contiguous United States; Proposed Rule, 78 Fed. Reg. 7,864, 7,867 (Feb. 4, 2013).

42. Further, while the wolverine’s total population in the lower-48 states is extremely small, the “effective population size” of the lower-48 wolverine population—meaning the portion of the population that engages in reproductive activities and thereby passes on its genes to the next generation—is even smaller. The effective population of wolverines in the Northern Rocky Mountains, which is the largest population in the contiguous United States, was estimated in 2009 (the most recent estimate) to be only 35 individuals. 85 Fed. Reg. at 64,639. This is well below the population level that the best available science shows to be necessary to preserve both short-term and long-term genetic diversity and viability. 78 Fed. Reg. at 7,884.

43. Wolverines are an elusive species that is difficult to track and count. Alarming, however, monitoring information suggests that wolverine populations have declined or vanished in some mountain ranges in the Northern Rockies compared to population levels monitored from 2001-2010.

44. Wolverines are a snow-dependent species and generally select as habitat areas that are cold and receive enough winter precipitation to reliably

maintain deep, persistent snow late into the spring season. This relationship with snow is particularly important for female reproductive denning, and snow cover during the wolverine denning period (February through May) appears to be essential for successful wolverine reproduction at the southern end of the species' range in the lower-48 states. Although the precise reasons why female wolverines choose den sites in deep snow are not known, scientists hypothesize that a den dug deep below the surface of the snow provides protection from extreme cold in the early spring and also protects young kits from predators. Regardless of the mechanism, it is clear that the correlation between spring snow and female reproductive dens is extremely tight: the most comprehensive study (Copeland, et al. (2010)) found that every one of the 562 verified wolverine den sites in North America and Scandinavia occurred in snow.

45. Furthermore, the correlation with snow extends beyond the denning season—“[w]olverine year-round habitat use also takes place almost entirely within the area defined by deep persistent spring snow.” 78 Fed. Reg. at 7,868 (citing Copeland, et al. (2010)). Indeed, according to the Copeland, et al. (2010) study, 95 percent of worldwide summer wolverine observations and 89 percent of year-round observations fell within an area that tended to have persistent spring snowpack. Copeland, et al. (2010) at 239. Another model of wolverine habitat, using a different method, coincides more than 96 percent with this snow-driven

model. See Inman, et al. (2013) at 283. Wolverines of both sexes rely on these cold, snowy areas year round, perhaps because snow helps provide “refrigeration” for the carcasses that wolverines feed on, and perhaps also because there is less competition for food in these cold, harsh regions.

46. Given the wolverine’s extensive reliance on areas defined by deep, persistent snow, a warming climate presents a significant threat to wolverine habitat. The most authoritative study of how wolverines’ habitat might shift with a changing climate was done by McKelvey, et al. (2011). This study used a combination of scientifically accepted global climate models to project the impacts of changing temperature and precipitation on the wolverine habitat defined by Copeland, et al. (2010). The McKelvey, et al. (2011) model predicts that “31 percent of current wolverine habitat in the contiguous United States will be lost due to climate warming by . . . 2045” and “[t]hat loss expands to 63 percent of wolverine habitat by . . . 2085.” 78 Fed. Reg. at 7,876 (citing McKelvey, et al. (2011)). Because “deep snow maintained through the denning period is required for wolverines to successfully live and reproduce,” id. at 7,874-75, this severe decline in spring snow is likely to have a significant detrimental impact on the reproduction and survival of the species. Moreover, these severe habitat declines will have the effect of “reducing the number of wolverines that can be supported by available habitat and reducing the ability of wolverines to travel between

patches of suitable habitat,” with negative consequences for gene flow and genetic viability. Id. at 7,877.

47. This projected habitat loss would render remaining wolverine habitat significantly smaller and more fragmented, which would threaten to cause decline of the wolverine’s already small total and effective population size along with greater isolation of remaining wolverine subpopulations.

WOLVERINES AND THE ENDANGERED SPECIES ACT

I. WOLVERINE LISTING HISTORY

48. This case presents the most recent chapter in a 20-year-long campaign by members of the public, including the Plaintiffs here, to respond to these threats by securing new legal protections for the wolverine under the ESA. The Service has resisted this campaign at virtually every step along the way, offering a series of meritless rejections and evasions to avoid deeming the wolverine a threatened species in the lower-48. The Service’s position has grown ever more illegitimate and tenuous over the years, with the agency going so far in its most recent action as to repeat an unjustified tactic—deeming the lower-48 wolverine population an unlistable entity—that the Service refused even to defend when it was attempted before.

49. This saga began on July 14, 2000, when various conservation organizations, including certain of the Plaintiffs here, submitted to the Service a

petition to list the wolverine within the contiguous United States as a threatened or endangered species under the ESA and to designate critical habitat for the species.

50. After more than two years of agency inaction, several conservation organizations in October 2002 sued the Service in this Court for failure to make a 90-day finding on the wolverine listing petition as required by 16 U.S.C. § 1533(b)(3)(A). As a consequence of that lawsuit, FWS published a negative 90-day finding in October 2003. 68 Fed. Reg. 60,112 (Oct. 21, 2003).

51. In response, in June 2005, conservation organizations again sued the Service in this Court, this time challenging the Service's negative 90-day finding. In September 2006, this Court held that the Service's negative 90-day finding was unlawful and ordered the Service to prepare a 12-month finding on the wolverine listing petition. Defenders of Wildlife v. Kempthorne, CV 05-99-M-DWM, slip. op. at 18-21 (D. Mont. 2006). The Court ultimately set a deadline of February 28, 2008 for the Service to publish a 12-month finding.

52. The Service published its 12-month finding, denying ESA protections for the wolverine, on March 11, 2008. 73 Fed. Reg. 12,929 (Mar. 11, 2008). In the finding, the Service never addressed the question whether the wolverine population in the lower-48 United States constitutes an endangered or threatened species. Instead, the Service determined that this population "does not constitute a listable entity under the Act" because it did not qualify as a DPS under the ESA's

“species” language, as interpreted by the Service. Id. Despite acknowledging several differences between wolverine populations on either side of the U.S.-Canada border, the Service incorrectly concluded that such differences were irrelevant to the DPS inquiry. Conservation groups again brought suit to challenge this finding. The Service declined to defend the DPS decision when challenged and, on March 6, 2009, the Service agreed to settle that case by committing to issue a new 12-month finding on wolverine listing by December 1, 2010. See 78 Fed. Reg. 7,864, 7,866 (Feb. 4, 2013).

II. 2010 12-MONTH FINDING

53. On December 14, 2010, nearly two weeks after the deadline, the Service finally published its 12-month finding, which determined that the wolverine within the contiguous United States constituted a distinct population segment that warranted listing under the ESA due to the predicted impacts of climate change and other threats. 75 Fed. Reg. 78,030 (Dec. 14, 2010). In its finding, the Service estimated wolverines were “likely to lose 63 percent of their current habitat area over the next century,” and “by 2045, maintenance of the contiguous U.S. wolverine population in the currently occupied area will require human intervention to facilitate genetic exchange.” Id. at 78,054. However, the Service still refused to extend ESA protections to the wolverine, finding that an actual listing decision was “precluded by higher priority listing actions.” Id.

54. Thereafter, the Service did not set a timetable for issuing a listing decision on the wolverine until it was required to do so by a separate court settlement in litigation brought by plaintiff Center for Biological Diversity addressing the Service's chronic backlog of listing determinations. Endangered Species Act Section 4 Deadline Litig., Misc. Action No. 10-377 (EGS), MDL Docket No. 2165 (D.D.C. Sept. 9, 2011). As part of this settlement, the Service agreed to issue a proposed listing rule for the wolverine, or withdraw the "warranted" 12-month finding, by the end of the 2013 Fiscal Year. Id.; see also 78 Fed. Reg. at 7,866.

III. 2013 PROPOSED LISTING RULE

55. Pursuant to this settlement, on February 4, 2013, the Service issued a rule proposing to list the distinct population segment of the North American wolverine occurring within the contiguous United States as threatened under the ESA. 78 Fed. Reg. at 7,864. The proposed rule adopted the analysis presented in the 2010 12-month finding to support the Service's conclusion that the wolverine occurring in the contiguous United States met both the discreteness and significance requirements and, therefore, was listable as a "distinct population segment" under the Act. Id. at 7,873-74. The Service further concluded that climate change posed a primary threat to the wolverine's survival, and that

trapping and small population size also posed threats when acting in concert with climate change. Id. at 7,873; 85-86.

56. Specifically, the Service concluded that the lower-48 wolverine was a discrete population segment based on the DPS criterion focusing on differences in conservation status across the international boundary with Canada. The Service predicated its discreteness finding on three main factors. First, the Service concluded that the wolverine's small population size in the lower 48—an estimated total of 250 to 300 individuals compared to western Canada's population of up to nearly 19,000 individuals—translates to a higher extinction risk for the population in the contiguous United States relative to the more secure Canada-Alaska population. 75 Fed. Reg. at 78,037. Second, the Service concluded that the exceptionally low effective total population size of the wolverine occurring in the contiguous United States falls below that needed to maintain genetic diversity and demographic stability as compared to Canadian wolverines, making the lower-48 wolverine population susceptible to deleterious effects due to reduced genetic resiliency and ability to adapt to change. Id. at 78,037-38. The Service also observed that lower-48 wolverines exhibit a reduced genetic diversity compared to Canadian wolverines, indicating that genetic drift—a change in the gene pool of small populations—is already occurring in lower-48 populations, as well as a level of genetic separation with Canadian wolverine populations. Id. Third, the Service

noted that the fragmented nature of wolverine habitat in the contiguous United States results in smaller, “sky island” patches separated by unsuitable habitats as compared to more connected and contiguous habitat in Canada. Id. at 78,037. Compounding this problem, the Service explained, is the low population density and genetic diversity of wolverines in the contiguous United States, which requires the exchange of individual wolverines between islands of habitat to avoid inbreeding or local extinction, unlike in Canada where exchange of individuals between habitats is both more likely to occur and less critical for the long-term maintenance of those populations. Id. at 78,038. Accordingly, the Service deemed the lower-48 wolverine population to satisfy the discreteness requirement for a DPS designation.

57. Regarding its finding of significance, the Service concluded that the lower-48 wolverine discrete population segment is biologically and ecologically significant for ESA purposes because loss of wolverines in the contiguous United States would represent a significant gap in the range of the taxon, substantially curtailing the range of the wolverine by moving the southern range terminus approximately 15 degrees of latitude to the north, and would “eliminate wolverines from the fauna of the contiguous United States.” Id. at 78,041. The Service observed that, contrary to the popular tendency to discount the conservation priority of peripheral populations, the status of the contiguous United States

wolverine as a peripheral population is significant because such peripheral populations often support the last remnant individuals of declining species. Id. Regarding wolverine genetics, the Service also highlighted that several genetic studies confirm genetic differentiation between wolverines in the contiguous United States and those in Canada coinciding with the international border, indicating that individuals are not passing freely between Canadian and lower-48 populations. Id. The Service expressed conservation concern regarding the lower genetic diversity present in the lower-48 wolverine population. Id. at 78,041-42. The Service therefore deemed the significance criterion for a DPS designation also satisfied.

58. The Service also concluded that climate change posed a threat to the wolverine DPS. As discussed, the best available scientific information predicts that the wolverine's snowy habitat will shrink dramatically as climate change progresses, with significant detrimental impacts on the species. The Service's proposed rule accordingly concluded "[w]olverine habitat is projected to decrease in area and become more fragmented in the future as a result of climate changes." 78 Fed. Reg. at 7,877. These habitat changes, in turn, "are expected to have direct and indirect effects to wolverine populations in the contiguous United States," posing a significant threat to the continued survival of this wolverine distinct population segment. Id.

59. As climate change shrinks the patches of suitable habitat occupied by wolverine subpopulations and enlarges the distance between them, scientists predict that the difficulty of dispersal between subpopulations will increase. Thus, gene flow will decrease. If this breakdown of metapopulation dynamics occurs, the Service concluded that “the entire metapopulation may be jeopardized.” 78 Fed. Reg. at 7,867. Therefore, as severe as the projected habitat declines are, the proposed rule found “gross loss of habitat area is likely to result in a loss of wolverine numbers that is greater than the overall loss of habitat area.” Id. at 7,876.

60. The dire threat of habitat loss recognized in the 2013 proposed listing rule compounds other existing and future threats to wolverines. For example, both intentional and incidental trapping pose a threat to wolverines, and the impact of both will only increase as climate change further fragments habitat and threatens metapopulation dynamics. The Service found that trapping poses a threat to the lower-48 wolverine population “when working in concert with climate change.” Id. at 7,886.

61. Low wolverine population numbers are also a threat compounded by habitat loss. The Service agreed that the effective population size of the remaining wolverine population in the contiguous United States is “below what is thought necessary for short-term maintenance of genetic diversity.” Id. at 7,884. Further,

the Service found that climate-driven isolation of certain populations “would result in a high likelihood of reduced genetic diversity due to inbreeding within a few generations.” Id. at 7,876 (citing Cegelski, et al. (2006) at 209). The Service therefore concluded that “the risk factor of small population size . . . is a threat to the North American wolverine DPS when considered cumulatively with habitat loss resulting from climate change.” Id. at 7,885.

IV. THE SERVICE’S 2014 WITHDRAWAL

62. After publishing a proposed rule, the ESA requires the Service to publish a final rule or withdraw the proposed rule within one year, 16 U.S.C. § 1533(b)(6)(A), 50 C.F.R. § 424.17 (a)(1), except that the Secretary may extend the period for six months for the purpose of “soliciting additional data” in response to “substantial disagreement regarding the sufficiency or accuracy of the available data,” 16 U.S.C. § 1533(b)(6)(B)(i), 50 C.F.R. § 424.17 (a)(1)(iv). After publishing the 2013 proposed listing rule, the Service took the six-month extension, citing several states’ and a few scientists’ disagreement with the scientific information presented by the Service in the proposed rule. 79 Fed. Reg. 6,874 (Feb. 5, 2014). With this extension, the ESA established the Service’s new deadline for publishing a final determination on the proposed listing as August 4, 2014. Id.

63. In the months leading up to this deadline for final determination, the Service abruptly changed course from its findings in the proposed rule and unexpectedly determined that neither climate change nor other risks posed significant threats to the survival of the wolverine.

64. Accordingly, on August 13, 2014, nine days after the ESA statutory deadline to publish a final decision, the Service issued a withdrawal of its proposed listing determination for the wolverine, finding that, although it considered the wolverine DPS a listable entity under the Act, it did not believe the lower-48 wolverine population is threatened. 79 Fed. Reg. 47,522 (Aug 13, 2014).

65. In October 2014, conservation organizations filed suit in this Court challenging the Service's withdrawal decision.

V. THIS COURT'S 2016 RULING

66. On April 4, 2016, this Court ruled in favor of the plaintiff conservation organizations, holding that the Service erred in withdrawing the proposed rule by arbitrarily dismissing threats to the lower-48 wolverine population arising from climate change and small population size. See Defenders of Wildlife, 176 F. Supp. 3d at 1011.

67. This Court held that the Service "erred when it determined: (1) that climate change and projected spring snow cover would not impact the wolverine at the reproductive denning scale in the foreseeable future, and (2) that small

population size and low genetic diversity do not pose an independent threat to wolverine viability in the United States. By incorporating these determinations into the [w]ithdrawal, the Service’s decision against listing the wolverine as threatened under the ESA is arbitrary and capricious. No greater level of certainty is needed to see the writing on the wall for this snow-dependent species standing squarely in the path of global climate change.” Id.

68. This Court therefore vacated and remanded the Service’s withdrawal decision and highlighted the necessity for the Service to take prompt action on the proposed wolverine listing, noting that “[i]t has taken us twenty years to get to this point. It is the [Court’s] view that if there is one thing required of the Service under the ESA, it is to take action at the earliest possible, defensible point in time to protect against the loss of biodiversity within our reach as a nation. For the wolverine, that time is now.” Id. at 1011-1012.

VI. THE SERVICE’S SUBSEQUENT DELAY

69. Despite this Court’s explicit admonition for the Service to take action on the wolverine listing proposal “at the earliest possible, defensible point in time”—a time that the Court in 2016 characterized as “now,” id.—more than three years after the Court’s decision, the Service had still failed to take any action to finalize the wolverine listing.

70. As a result, the conservation organization again returned to this Court in March 2020, this time to challenge the Service's failure to make a timely finding on the proposed wolverine listing. Rather than defend its conduct, the Service entered into a settlement agreement with the Plaintiffs. As part of this settlement, the Service agreed to issue a final listing decision for the wolverine DPS by August 2020.

VII. THE CHALLENGED WITHDRAWAL DECISION

71. On October 13, 2020, the Service published its renewed listing decision on the proposed rule to designate the lower-48 wolverine population as a threatened species under the ESA. See 85 Fed. Reg. 64,618. In its final listing decision, the Service decided to withdraw the proposed rule and rejected ESA listing of the wolverine—i.e., the same result reached by the agency in the 2014 withdrawal decision that this Court invalidated in 2016. This time around, the Service abandoned its prior findings that the contiguous U.S. wolverine constitutes a distinct population segment, and instead concluded that the contiguous U.S. wolverine is not a listable entity under the ESA. Id. at 64,631. In this respect, the Withdrawal revived an illegitimate strategy that the Service had invoked in denying wolverine listing in 2008 but then declined to defend when challenged before this Court. Moreover, the Service in the new Withdrawal disregarded the best available science and ignored important factors in concluding that the

wolverine faces no significant threats that likely will make it become endangered within the foreseeable future within all or a significant portion of its range. Id. at 64,647.

A. The Service’s Negative DPS Finding

72. A population of a species is “discrete” under the Service’s own DPS policy if, among other things, it is “delimited by international governmental boundaries within which differences in control of exploitation, management of habitat, conservation status, or regulatory mechanisms exist that are significant in light of section 4(a)(1)(D) of the Act.” 61 Fed. Reg. at 4,725. As discussed, the Service deemed the lower-48 wolverine population to be “discrete” under this criterion when proposing wolverine listing in 2013.

73. Addressing the international boundary issue, both in the challenged Withdrawal and in prior findings, the Service recounted major differences in conservation status between the wolverine populations in Canada and Alaska, on the one hand, and the wolverine population in the lower-48 states, on the other, including: (1) wolverines in the lower-48 United States are far less numerous than in Canada and Alaska, see 85 Fed. Reg. at 64,629, 75 Fed. Reg. at 78,037; (2) wolverines in Canada, but not in the United States, are easily able to move between areas of suitable, contiguous habitat, id., and (3) because of their small, isolated populations, wolverines in the lower-48 United States depend upon regular

exchanges of individuals between populations to maintain genetic diversity and to repopulate areas after natural or human-caused mortalities have depleted local populations, with population distributions “primarily limited by dispersal of the more philopatric sex (females),” whereas much larger and more contiguous distribution of wolverine populations in Canada and Alaska makes exchange of individuals less important for wolverine conservation, see 85 Fed. Reg. at 64,639, 75 Fed. Reg. at 78,037-38.

74. Despite acknowledging these stark differences in wolverine conservation as defined by the U.S.-Canada border, the Service in the challenged Withdrawal dismissed them as irrelevant to the DPS inquiry—i.e., not attributable to differences in conservation status. The Service reached this conclusion by making several flawed assumptions, misinterpreting the best available scientific information, and ignoring contrary scientific information.

75. At the outset, the Service’s dismissal of the conservation difference reflected in the lower-48 wolverine population’s small size compared to the Canadian wolverine population was inconsistent with the agency’s own biological findings. As in prior findings, the Service observed that “[w]olverines in Canada are considered to occur as a single large group as they are more easily able to move between areas of suitable habitat and because wolverine habitat is relatively contiguous” as compared to “wolverines in the contiguous United States [which]

are considered to be a metapopulation” occupying scattered areas of relatively isolated habitat. 85 Fed Reg. at 64,629. Nevertheless, the Service in the challenged Withdrawal arbitrarily concluded that the small population size of contiguous U.S. wolverines did not reflect a difference in conservation status from Canadian populations, but rather reflected the lower-48 population’s status as a peripheral population at the southern extent of the species’ North American range. Id. Yet this rationale itself recognizes a difference in conservation status because the peripheral location of the lower-48 wolverine population places it in fragmented habitat where the metapopulation must be maintained across scattered core populations occupying relatively isolated suitable habitat areas, whereas core Canadian populations do not share the same challenges. Thus, the Service’s own findings support, rather than disprove, a difference in conservation status based on small population size and the Service’s summary disposal of this issue is arbitrary and unlawful for that reason alone.

76. Further, the Service’s negative DPS determination defied the best available scientific information. The best available information, as previously adopted by the Service, suggests that exceptionally low effective population size of the wolverine population occurring in the contiguous United States falls below that needed to maintain genetic diversity and demographic stability as compared to Canadian wolverines, making the lower-48 wolverine population susceptible to

deleterious effects due to reduced genetic resiliency and ability to adapt to change. See 75 Fed. Reg. at 78,037-38. Nonetheless, in its Withdrawal, the Service ignored this best available scientific information and retreated from its own previous conclusions to advance its unsupported assertion that the small effective population size of the lower-48 wolverine is not a conservation concern because the wolverine population is not “genetically isolated” from Canadian populations. 85 Fed. Reg. at 64,629. This speculative conclusion ignored recent scientific findings regarding the wolverine DPS, including a recent study authored by Sawaya, et al. (2019) which established that the Trans-Canada highway represents a significant barrier to wolverine movement southward from more northerly populations, resulting in substantial genetic discontinuity between wolverines on either side of the highway, as measured by a mitochondrial haplotype analysis. The Service’s conclusions also failed to address Sawaya, et al.’s finding that the U.S. wolverine subpopulations in the Northern Rockies and Cascades each have only 25 percent of the haplotype diversity of Canadian wolverine populations to the north. The Service likewise ignored another recent study, authored by Mowat, et al. (2019), documenting unsustainable trapping levels in southern Canada with impacts particularly focused on young wolverines most likely to constitute dispersers carrying new genetic material into the lower-48 population. The Service’s failure to grapple with this contradictory scientific information renders

its conclusions unsupported by the best available scientific information and unlawfully arbitrary.

77. In addition to ignoring the best available scientific information, the Service's conclusions regarding the difference in conservation status reflected by the wolverine's small effective population size in the lower 48 also misinterpreted and misapplied the available science. For example, the Service asserted connectivity between currently occupied habitat and unoccupied habitat within the wolverine's historical range based, in part, on observational studies documenting lone male wolverines' movement and presence outside of primary wolverine habitat, in California and Colorado. Id. at 64,630. The Service irrationally concluded that these movements, in addition to movement of wolverines between occupied areas, reflect "connectivity and the potential for gene flow" between these habitats. Id. The Service's flawed analysis overlooks an essential element required for connectivity and gene flow: the presence of a female wolverine in the region to allow reproduction. See Sawaya, et al. p. 619 (2019); see also 85 Fed. Reg. at 64,639. Moreover, population growth studies require demographic parameters—including reproductive rates, recruitment rates, and survival rates—to assess any claims about population viability in a species over time. Noting a handful of instances of individual males dispersing to unoccupied regions of the wolverine's historic range is not a substitute for robust work on demographics and

cannot support a conclusion that the species is expanding into unoccupied regions of its historic range.

78. The Service similarly overlooked and failed to rationally analyze the best available scientific information in concluding that wolverine habitat fragmentation in the contiguous United States is not a significant difference in conservation status from Canada. 85 Fed. Reg. at 64,630-31. The Service previously concluded that the fragmented nature of wolverine habitat in the contiguous United States results in smaller, “sky island” patches separated by unsuitable habitats as compared to the more connected and contiguous habitat in Canada. See 75 Fed. Reg. at 78,037. The Service reversed course in the Withdrawal, attempting to discount the significance of habitat fragmentation in the lower-48 United States based on observations of wolverines moving through areas without snow cover and on denning behavior of female wolverines outside of areas retaining deep, persistent snow in boreal regions of Canada and Scandinavia. See 85 Fed. Reg. at 64,631. The Service’s assertion arbitrarily seeks to minimize the obvious differences between a peripheral lower-48 population occupying relatively isolated suitable habitat areas and a core Canadian population occupying relatively contiguous habitat. The Service’s assertion also fails to account for the lack of any scientific information documenting wolverine denning outside areas of deep, persistent spring snow in the more southerly portion of the species’ range where

the listing inquiry is focused. The Service’s conclusions also ignore scientific evidence—including studies by Sawaya, et al. (2019); Mowat, et al. (2019); and Scrafford, et al. (2018)—confirming that roads and other landscape developments present a significant barrier to such movements between isolated habitat areas.

79. The Service also overlooked the key point that, as climate change shrinks the patches of suitable habitat occupied by wolverine subpopulations and enlarges the distance between them, the difficulty of dispersal between subpopulations will increase. Thus, as the Service previously recognized in its 2013 proposed rule, gene flow will decrease with increasing climate change impacts, thereby potentially resulting in “the entire metapopulation [becoming] jeopardized.” 78 Fed. Reg. at 7,867. The Service’s contrary finding in the Withdrawal failed to analyze or even account for this possibility. For that reason too, it was arbitrary and contrary to the best available scientific information.

80. The above-described differences in conservation status alone are sufficient to justify a finding of discreteness, just as they were when the Service itself proposed such a finding in 2013. However, in addition to irrationally dismissing differences in conservations status that were sufficient to justify a finding of discreteness, the Service also arbitrarily rejected independent bases for a finding of discreteness based on differences in control of exploitation and regulatory mechanisms.

81. For instance, the Service ignored evidence of differences in control of exploitation, including recent studies such as Mowat, et al. (2019) and Kukka, et al. (2017), confirming that the current rate of wolverine trapping in southern Canada is unsustainable and that trapping disproportionately impacts younger wolverines that are most likely to constitute the dispersers that the Service relies on to ensure connectivity with the lower-48 population. These findings, much like previous findings of the Service, demonstrate that unsustainable exploitation of wolverines in Canada threatens wolverines in the lower-48 by impeding dispersal of Canadian wolverines across the international border. 75 Fed. Reg. at 78,039-40. This threat is only underscored by the Service's numerous findings that rely on such dispersal to alleviate apparent threats to the lower-48 population. For instance, the Service acknowledges that dispersal of wolverines from Canada is needed to replenish the numbers and genetic viability of the fragmented lower-48 population.

82. Because the Service determined that the wolverine population in the contiguous United States is not discrete from the Canadian population, the Service did not complete an analysis to determine if the population is significant according to the DPS Policy. 85 Fed. Reg. at 64,631. Nevertheless, for all of the same reasons that the Service found the lower-48 wolverine population to satisfy the

significance criterion in the 2013 proposed rule, it continues to satisfy that criterion today.

83. For all of these reasons, the Service's determination in the Withdrawal that the lower-48 wolverine population does not qualify as a DPS under the ESA was arbitrary and unlawful.

B. The Service's Dismissal of Threats Faced by the Wolverine

84. The Service also failed to apply the best available science in assessing the threats faced by the lower-48 wolverine population and, instead, arbitrarily concluded that the lower-48 wolverine population faces no significant threats that likely will render it endangered within the foreseeable future throughout all or a significant portion of its range.

1. Climate Change Impacts

85. The Service failed to rationally assess the risk of climate change to the lower-48 wolverine population's survival. The Service must list a species as threatened or endangered due to "other natural or manmade factors affecting its continued existence." 16 U.S.C. § 1533(a)(1)(E). The Service's evaluation of the threat posed by these factors must be rational, Greater Yellowstone Coal. v. Servheen, 665 F.3d 1015, 1020 (9th Cir. 2011), and grounded in the best available science, 16 U.S.C. § 1533(b)(1)(A). In the Withdrawal, the Service failed to

rationality assess the risk of climate change to the survival of the lower-48 wolverine in light of the best available science.

86. Despite the well-documented relationship between a cold, snowy climate and wolverine survival, the Service concluded that climate change does not pose a significant risk to the wolverine's survival as a species because, it argued, the lower-48 wolverine population is not dependent on snow cover for denning, and, in any event, snow pack will persist at adequate levels for wolverine reproductive success. 85 Fed. Reg. at 64,643-44. These findings were arbitrary and unlawful.

2. Impact on Wolverine Denning

87. First, the Service failed to apply the best available science showing wolverines depend on deep spring snow, and the best available climate modeling showing that areas with deep spring snow are likely to shrink dramatically as the climate warms. Instead, the Service irrationally claimed this massive decline in spring snowpack—the one feature scientists know is essential to denning and reproduction—will have no foreseeable impact on wolverine reproductive success.

88. To reach this conclusion, the Service first attempted to undermine the obligate relationship between wolverines and spring snowpack. In so doing, the Service rejected and failed to rationally assess and apply the best available scientific information. Most significantly, the Service failed to rationally assess

the Copeland, et al. (2010) study. Copeland, et al. (2010) established that wolverine habitat is characterized by persistent spring snowpack and, in particular, by snowpack that persists until the end of the species' spring reproductive denning period. The Service previously attempted to distinguish and dismiss the Copeland, et al. (2010) study when it first withdrew the proposed wolverine listing rule in 2014, and this Court in 2016 deemed the agency's reasoning arbitrary and unlawful. See Defenders of Wildlife, 176 F. Supp. 3d at 1004. The Service's second attempt to distinguish and dismiss Copeland, et al. (2010) in the challenged Withdrawal is equally flawed.

89. The Service's Withdrawal attempted to cast doubt on the methodology of the Copeland, et al. (2010) study by suggesting that additional study was needed to evaluate if wolverines in the contiguous United States are dependent on late-spring snowpack for their reproductive success. 85 Fed. Reg. at 64,643. At the outset, this treatment of the Copeland study misapprehends the study's utility. Copeland, et al. (2010) positions its bioclimatic model as a broad starting point for modeling wolverine denning site selection, with the assumption that further studies and models will account for the various additional factors that further explain wolverine denning behavior. While various subsequent studies cited by the Service demonstrate additional selection criteria for wolverine denning sites, all demonstrate that wolverines are cold-adapted, and none disprove a

correlation between wolverine denning sites and areas characterized by late-spring snow conditions. The Service ignored the key point that these studies serve to reinforce the threat of climate change on the wolverine which, by all accounts, is suited to a cold and snowy climate. In the absence of any cited study discrediting Copeland, et al. (2010), the Service's treatment of the study's findings was irrational.

90. The Service also failed to rationally assess the best available scientific information regarding the denning behavior of the wolverine within the contiguous United States, most notably by citing to various studies recording wolverine behavior observed in dissimilar wolverine population areas outside of the lower-48 without providing any justification for its basis of comparison. Specifically, the Service relied on information from far-north, boreal regions of Scandinavia and Canada to posit that wolverines in the lower 48 do not require persistent snowpack for successful denning. 85 Fed. Reg. at 64,643. However, these cited studies fail to diminish the threat that climate change poses to the wolverine population at the southern periphery of its range in the lower-48 states. Significantly, the Service pointed to no documented dens outside of the spring snow cover model within the range of the lower-48 wolverine population or anywhere near it. This fact alone undermines the credibility of the Service's arguments regarding the best available information.

91. A closer examination of the studies selectively cited by the Service further reveals their poor fit to the lower-48 wolverine population at issue in the ESA listing decision. The Service largely relied on a 2016 study by Webb, et al. concerning distribution of female wolverines relative to snow cover in Alberta, Canada. Id. However, the Webb, et al. (2016) study does not dispel the threat that a warming climate poses to the wolverine population in the lower-48 United States for several reasons. Importantly, the authors of the study acknowledged that the less rocky and less snowy terrain used for denning by wolverines occupying boreal forest habitats in Alberta, Canada, the focus of the study, was dissimilar to the mountainous terrain occupied by wolverines in the lower 48. Specifically, Webb advised that “it may be important to view the Rocky Mountains and Boreal Forest data separately when drawing conclusions” and suggested that its boreal forest observations reflect particular wolverine associations with habitat conditions that are unique to that colder, more northern environment. Webb, et al. p. 1,467 (2016). The Service ignored Webb’s own caution about the application of this study and instead irrationally used it to extrapolate conclusions about the habitat requirements of wolverines in the lower-48 states.

92. The other studies cited by the Service for this point are similarly distinguishable. All examined denning by populations outside of the lower-48 wolverine population’s geographical parameters. As the Service itself observed in

a prior decision concerning the wolverine, the discovery of wolverine dens “in flat or lowland boreal forest area,” like the dens cited by the Service in the Withdrawal, would be “largely irrelevant” to any listing decision for the lower-48 wolverine population because “the habitats in the contiguous U.S. DPS are not lowland boreal habitats but rather mountainous habitats where the [Copeland et al. (2010)] model fit is very good.” 79 Fed. Reg. 47,522, 47,527. The Service’s Withdrawal offered no rational justification for a different conclusion.

3. Persistence of Spring Snow

93. In addition to its arbitrary discussion of the wolverine’s dependence on habitat areas characterized by persistent spring snowpack, the Service’s Withdrawal irrationally assessed the likelihood that the impacts of climate change would threaten the persistence of spring snowpack within the lower 48. In particular, the Service relied on narrow findings regarding snow persistence in a small portion of the wolverine’s range in the lower 48 where snow is expected to be most persistent, and then applied those findings broadly across dissimilar areas to conclude that a reduction in snowpack due to climate change would not result in a significant loss of individuals or threat to population resiliency across the wolverine’s range in the lower 48.

94. At the outset of its discussion, the Service acknowledged that observed trends and future climate model projections indicate warming

temperatures for much of the western United States, including areas within the range of the lower-48 wolverine population. 85 Fed. Reg. at 64,642. The Service noted, however, that certain higher elevations, such as the Rocky Mountains and Sierra Nevada Mountains, are likely to be more resilient to projected changes in temperature and precipitation and claimed that, as a result, wolverines in the lower 48 will still have access to areas with significant spring snow cover in the future. Id. at 64,643. In this regard, the Sierra Nevada Mountains host no wolverine population so the possible persistence of spring snowpack in those mountains is irrelevant to wolverine conservation.

95. Further, to support its assertion, the Service pointed to a 2017 analysis, Ray, et al., that modeled future snow persistence for only two areas, Glacier and Rocky Mountain National Parks. The Service stated that these locations were selected for analysis because they encompass the latitudinal and elevational range of wolverines within the contiguous United States. Id. The Service asserted that the Ray study's results indicated that large tracts (several hundred square kilometers (miles) for each site) of significant future snow (greater than 0.5 m (20 in) in depth) are projected to remain within suitable wolverine denning habitat. Id. Accordingly, the Service concluded that the species' needs related to reproductive behavior are expected to be met in the future (i.e., 38-50

years) within its North American range, including the contiguous United States.

Id.

96. The Service's reliance on these findings to conclude that climate change will not produce a significant negative impact on the lower-48 wolverine population was irrational and disregarded the best available science. First, one of the areas assessed in the Ray analysis, Rocky Mountain National Park in the Colorado Rockies, contains no wolverine population, so the prospect of persistent spring snowpack there is irrelevant to the conservation status of the lower-48 wolverine population. More fundamentally, the Ray study selectively examined only the two locations projected to be most likely to retain spring snow cover into the next century according to the findings from the earlier McKelvey study, discussed supra, which predicted massive losses of spring snowpack elsewhere across the wolverine's North American range. The Service's Withdrawal discussed, but did not refute, the McKelvey analysis, and in particular offered no basis to question McKelvey's results regarding areas more and less likely to retain spring snow cover. The Service thus "cherry-picked" the two locations most likely to retain snow to forecast favorable snow conditions for wolverine survival, while offering no rational basis to reject the McKelvey, et al. (2011) study's conclusion as to other locations within the wolverine's range: that the wolverine's habitat across the contiguous United States region would shrink by up to 63% in 2085.

97. This irrationally limited analysis overlooked key threats to wolverine survival in the lower 48. It disregarded likely climate impacts on snow retention in those portions of the wolverine's range in the lower-48 states predicted by McKelvey to face massive losses of spring snow cover—for instance, lower-elevation habitat areas in Idaho. Further, by focusing only on the snowiest portions of the wolverine's lower-48 range, the Service necessarily omitted any analysis of the impacts to the interstitial mountain ranges on which the meta-population depends, or to the wolverine's ability to move between them, which is critical for wolverine persistence in the lower 48. This analysis also did nothing to assess the distribution of the remaining snowpack in relationship to other habitat features of potential importance to wolverines. The Service itself acknowledged that wolverines select denning sites based on several factors, but entirely failed to evaluate any of those factors in concluding that snowpack persistence will necessarily support a continued wolverine population in the lower 48. The Service's narrow and incomplete examination of the future effects of climate change renders the Service's conclusions irrational and arbitrary.

4. Impacts Related to Small and Fragmented Population

98. In addition to its unjustified conclusions regarding climate change, the Service failed to rationally support its conclusion that wolverine abundance does not appear to be declining in the contiguous United States. In rejecting threats

associated with an extremely small and fragmented population, the Service pointed to a handful of anecdotal observations while ignoring evidence of decline.

Essentially, the Service incorrectly used the ideas of “expansion” and occupancy as proxies for population growth, while ignoring contrary evidence.

99. Regarding range expansion, the Service stated that observed wolverine movement in the lower-48 supports some level of connectivity, and potential gene flow, between the current occupied habitat and unoccupied habitat within the wolverine’s historical range. Id. at 64,639. Specifically, the Service pointed to the fact that wolverines have recently dispersed into historically occupied areas, including California and Colorado. Id. These “dispersal” events each involved the movement of a lone male wolverine into an unoccupied habitat within the wolverine’s historic range. However, the Service again irrationally concluded that these movements reflect “gene flow” between these habitats because the Service overlooked the absence of any female wolverine in the region to allow for reproduction.

100. The Service also overplayed a recent multi-state occupancy survey to support its unfounded claims about population resiliency. Id. at 64,647. This occupancy study assessed simple presence or absence of wolverines in certain states over one season, extrapolating to assert more wolverine presence than the study actually documented. Although this study may offer a snapshot of wolverine

occupancy in some areas for a limited period of time, its conclusions cannot be relied on as definitive proof of occupancy rates throughout the range or otherwise extrapolated to assert population growth because they observe only a single season and have no “closure.” See Mowat, et al. p. 11 (2019). In this context, “closure” refers to the ability of the study to distinguish between a single disperser moving through areas that have otherwise been determined to be unoccupied as opposed to actual occupants. The Service’s reliance on this study for a conclusion that it does not support thus threatens to yield overestimation of wolverines in the occupant population.

101. The Service also failed to reconcile its assertion of wolverine population expansion and resiliency with more thorough and longer-term studies of traditionally occupied areas that have recently been determined to be unoccupied. Recent monitoring reports provide evidence of wolverine population decline—not expansion—in significant portions of the lower-48 population’s range. These reports indicate that traditionally occupied areas of the wolverine range have decreased in population size in the past several years without new resident animals filling these vacant spots. The Service failed to consider this relevant scientific information, which was more thoroughly supported than the information upon which the agency relied.

5. Other Threats

102. The Service also arbitrarily dismissed other threats to the wolverine population in the lower-48 states. Regarding the threats to the lower-48 wolverine population arising from a low effective population size and overall small population size, the Service asserted that the wolverine population in the lower 48 is connected with a larger and more robust Canadian population that can replenish its numbers and genetic diversity. Similarly, the Service dismissed threats arising from overexploitation of wolverines in Canadian source populations as well as inadequate genetic diversity in the lower-48 population based on a finding of sustainable trapping levels and relatively unimpeded movement of Canadian dispersers into the lower-48 population. As discussed above, however, recent scientific information demonstrates unsustainable wolverine trapping levels in southern Canada and substantial barriers to movement between Canadian and lower-48 wolverine populations, as well as substantial genetic discontinuity between Canadian and lower-48 populations. The Service failed to consider this information.

103. Finally, the Service dismissed the threat of escalating winter recreation activities in wolverine habitat based on an assertion that wolverines can maintain residency in high winter-recreational use areas. 85 Fed. Reg. at 64,637. However, in reaching this conclusion, the Service ignored findings from a new

study, Heinemeyer, et al. (2019), establishing that female wolverines, the most significant cohort of the population for reproduction, exhibited stronger avoidance of off-road motorized recreation and experienced higher indirect habitat loss from such activities than male wolverines. Heinemeyer, et al. (2019) therefore suggested that indirect habitat loss, particularly to females, may be of conservation concern in areas with higher recreation levels. The Service arbitrarily disregarded this threat, and further failed to evaluate it in light of future trends indicating that wolverines are likely to face greater pressure from winter recreational activities over time, given trends of increasing recreation levels with increasing human population and likely concentration of such recreation in smaller areas due to loss of snow pack from the anticipated impacts of climate change.

FIRST CAUSE OF ACTION

(Violation of Endangered Species Act – Unlawful Distinct Population Segment Determination)

104. Plaintiffs hereby reallege and incorporate Paragraphs 1 through 103.

105. The ESA required the Service to rationally determine, among other things, whether the lower-48 wolverine constitutes a “species” under the ESA, 16 U.S.C. § 1533. The term “species” includes “any distinct population segment of any species of vertebrate fish or wildlife which interbreeds when mature.” *Id.* at 1532(16). The Service’s policy interpreting the phrase “distinct population segment” requires consideration of the discreteness of the population segment in

relation to the remainder of the species to which it belongs; the significance of the population segment to the species to which it belongs; and the population segment's conservation status in relation to the Act's standards for listing. 61 Fed. Reg. 4,722, 4,725 (Feb, 7, 1996). Under the Service's DPS Policy criteria for discreteness, the Service must determine whether "differences in control of exploitation, management of habitat, conservation status, or regulatory mechanisms" across international boundaries "exist that are significant in light of section 4(a)(1)(D) of the Act." Id. In its evaluations, the Service is required to utilize the "best scientific and commercial data available" to the agency. 16 U.S.C. § 1533(b)(1)(A).

106. Here, in evaluating whether the lower-48 wolverine population satisfies requirements for designation as a DPS, the Service ignored and failed to rely on the best available scientific information to support its conclusions that there are no "differences in control of exploitation, . . . conservation status, or regulatory mechanisms" across international boundaries "that are significant in light of section 4(a)(1)(D) of the Act." Likewise, the Service failed to articulate a rational connection between the facts found and the choice ultimately made by the agency. As a result, the Service acted arbitrarily, capriciously, and unlawfully in evaluating the factors for determining whether the lower-48 wolverine constitutes a distinct population segment under the ESA.

107. The Withdrawal is therefore arbitrary, capricious, and not in accordance with law and should be set aside pursuant to the ESA and the Administrative Procedure Act (“APA”), 16 U.S.C. § 1533, and the Service’s DPS Policy, 61 Fed. Reg. at 4,725; 5 U.S.C. § 706(2).

SECOND CAUSE OF ACTION

(Violation of Endangered Species Act – Unlawful Evaluation of Threats to the Lower-48 Wolverine Population)

108. Plaintiffs hereby reallege and incorporate Paragraphs 1 through 107.

109. The ESA required the Service to rationally determine, among other things, whether the lower-48 wolverine is threatened by “the present or threatened destruction, modification, or curtailment of its habitat or range,” “the inadequacy of existing regulatory mechanisms,” “overutilization,” or “other natural or manmade factors affecting its continued existence.” 16 U.S.C. § 1533(a)(1)(A),(B), (D), (E). The ESA further requires that, in doing so, the Service must utilize the “best scientific and commercial data available” to the agency. Id. at § 1533(b)(1)(A).

110. Here, the Service ignored and failed to utilize the best available scientific information in concluding that the lower-48 wolverine is not threatened by factors including small population size, small effective population size, habitat fragmentation, low genetic diversity, climate change, overexploitation, and disturbance due to winter recreation. Likewise, the Service failed to articulate a

rational connection between the facts found and the choice ultimately made by the agency. As a result, the Service acted arbitrarily, capriciously, and unlawfully in evaluating threats to the lower-48 wolverine population under the ESA.

111. The Withdrawal is therefore arbitrary, capricious, and not in accordance with law and should be set aside pursuant to the ESA and APA. 16 U.S.C. § 1533; 5 U.S.C. § 706(2).

PRAYER FOR RELIEF

THEREFORE, Plaintiffs respectfully request that the Court:

1. Declare that Defendants acted arbitrarily and capriciously and violated the ESA and its implementing regulations in issuing the October 13, 2020 Withdrawal;
2. Set aside and remand the October 13, 2020 Withdrawal for further analysis and agency action consistent with this Court's decision;
3. Order Defendants to issue and publish a new final listing determination on the proposed wolverine listing rule by a date certain set no later than six months after this Court's judgment;
4. Grant Plaintiffs such further and additional relief as the Court may deem just and proper; and
5. Award Plaintiffs their reasonable fees, costs, and expenses, including attorneys' fees, associated with this litigation.

Respectfully submitted this 21st day of January, 2021.

/s/ Amanda D. Galvan

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CERTIFICATE OF SERVICE

I hereby certify that on January 21, 2021, I served a copy of the foregoing document on the defendants in the above-captioned matter via first-class mail to each of the following addresses:

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